Arizona State Retirement System

Sudan Scrutinized Companies List and Held Companies

Reported on Nov. 30, 2012 Holdings as of Sept. 30, 2012







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About This Audit & Scrutinized List

The Arizona State Retirement System (ASRS) has contracted an independent third-party provider—MSCI ESG Research—to conduct research and an audit on its behalf in order to determine the universe of companies that would fall under the provisions of Arizona Revised Statutes (A.R.S.) §35-391, et. seq. relating to investments in companies with certain business operations in Sudan. MSCI ESG Research has conducted this audit by comparing the securities in the ASRS investment portfolio of holdings to a list of Scrutinized Companies that fulfill the definition outlined in A.R.S. §35-391. Any matching securities are listed as ASRS Held Companies with Statutory Ties for Sep. 30, 2012 in this report.

Additionally, MSCI ESG Research has provided the complete list of companies that meet the criteria of scrutiny outlined by Arizona law. These are presented below in the *Sudan Scrutinized Companies List*.

In completing this study, MSCI ESG Research has conducted research and reviewed all U.S. and foreign companies with any ongoing business ties to Sudan. The complete universe of companies has been filtered through the following levels of scrutiny, as defined by Arizona law:

• Scrutinized Company Determination: the law defines "Scrutinized Company" as any company with business operations that involve contracts with or provision of supplies or services to the Government of Sudan, companies in which the Government of Sudan has any direct or indirect equity share, Government of Sudan-commissioned consortiums or projects or companies involved in Government of Sudan-commissioned consortiums or projects in any of the following industry sectors: oil-related or mineral extraction activities, power production activities, or provision of military equipment. The category also includes companies complicit in the Darfur Genocide.

The resulting universe of companies was further categorized according to the following requirements of State law:

- Active Business Operations: means all business operations that are not inactive business operations. Only companies falling in this category are potential subjects of divestment by the ASRS.
- Inactive Business Operations: means the continued holding or renewal of rights to property
 previously operated for the purpose of generating revenues but not presently deployed for such
 a purpose. Companies in this category are not potential subjects of divestment by the ASRS.
 Companies are to be notified of their status, but will not face further action.

All companies, both Active and Inactive, that fulfill the above-defined criteria, are presented in the *Sudan Scrutinized Companies List*. The *ASRS Held Companies with Statutory Ties* report presents all Active Scrutinized companies, which may face further divestment action by the ASRS.



I. ASRS Held Companies with Statutory Ties for Sep. 30, 2012

| Entity Name | SEDOL | ISIN | Country |
|-------------|-------|------|---------|
| | | | |

Total Companies: 0

II. Sudan Scrutinized Companies List

| Entity Name | SEDOL | ISIN | Country |
|---|------------------------|--------------|----------|
| ASEC Co for Mining SAE | B04CCH2 | EGS10001C013 | Egypt |
| AviChina Industry & Technology Company Limited | 6707899 | CNE1000001Y8 | China |
| Citadel Capital S.A.E. | B40TX61 | EGS73541C012 | Egypt |
| Daqing Huake Company Limited | 6277949 | CNE000001402 | China |
| El Sewedy Electric Co | B15Q010 | EGS3G0Z1C014 | Egypt |
| Electricity Generating Public Company Limited | 6304632 | TH0465010005 | Thailand |
| Harbin Electric Company Limited (formerly Harbin Power Equipment Company) | 6422761 | CNE1000003C0 | China |
| Jiangxi Hongdu Aviation Industry Co., Ltd. | 6304375 | CNE0000015N3 | China |
| Jinan Diesel Engine Company Limited | 6486109 | CNE000000MS3 | China |
| La Mancha Resources Inc | 2584 <mark>2</mark> 90 | CA5035481095 | Canada |
| PetroChina Company Limited | B28SLD9 | CNE1000007Q1 | China |
| Sinohydro Group Ltd. | B4TH690 | CNE1000017G1 | China |
| Sudatel Telecom Group Limited | B17N376 | SD000A0F5KV7 | Sudan |

Total Companies: 13

III. Scrutinized Companies Involvement Details

ASEC Co for Mining SAE

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| EGS10001C013 | B04CCH2 | ASCM | |

Materiality Summary:

Materiality Indicator: Revenue



| % Revenue from Sudan | Total Revenue | Sudan Revenue |
|----------------------|---------------|---------------|
| 22.12% | \$ 91,729,500 | \$ 20,290,000 |

Involvement Summary:

Summary of Involvement

As of August 2012, ASEC Company for Mining (ASCOM), an Egypt-based mining firm, maintained a Khartoum-based subsidiary, Nebta for Geology and Mining (Nebta), which held a precious metals mining concession and quarrying contracts in Sudan. Another ASCOM subsidiary, ASCOM Precious Metals Mining (APMM), provided geological exploration services in Sudan. As of May 2012, ASCOM owned 100 percent of Nebta and 99 percent of APMM.

Details of Involvement

Nebta's Quarrying Contracts

In May 2011, ASCOM told a U.S. pension fund that the company's subsidiary, Nebta, was engaged in the execution of geological studies and supply of raw materials for cement plants. In 2009, Nebta secured contracts with Sudanese firms Al Takamol Cement and Al Shamal Cement for the launch of limestone and calcium carbonate quarries in Atbarah, northeastern Sudan. The EGP 78-million (USD 13 million) contract with Al Takamol Cement would be ongoing for one and a half years. Meanwhile, the EGP 480-million contract (USD 80 million) with Al Shamal Cement would be for five years.

Mining Concession

Nebta also signed an agreement with Sudan's Mining & Energy Ministry for gold and base metals exploration rights on a 3,000-square kilometer concession in the Blue Nile State. Citadel Capital, one of ASCOM's shareholders, disclosed in its 2010 Annual report that APMM commenced fieldwork, drilling, and geological surveys in the company's Blue Nile concession. As of September 2011, APMM's Web site stated that extensive geological surveys were slated until 2012.

AviChina Industry & Technology Company Limited

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| CNE1000001Y8 | 6707899 | 2357 | |

Materiality Summary:

Materiality Indicator: Revenue

| % Revenue from Sudan | Total Revenue | Sudan Revenue |
|----------------------|------------------|---------------|
| 1.00% | \$ 2,004,307,873 | \$ 20,000,000 |

Involvement Summary:

Summary of Involvement





As of September 2012, AviChina Industry & Technology Company (AviChina), a China-based aviation company, had a minority stake in Jiangxi Hongdu Aviation Industry (formerly Nanchang Aviation Manufacturing Company), a Chinese company that had sold K-8 and Hongdu JL-8 fighter and trainer aircraft in the country. As of July 2012, AviChina owned 55.29 percent of Jiangxi Hongdu Aviation Industry.

Details of Involvement

Operations in Sudan

In August 2012, a company press release reported that it had completed a training course on K-8 aircraft maintenance in Sudan. As of August 2012, the Arms Trade Register of the Stockholm International Peace Research Institute reported that the Sudanese armed forces had 12 K-8 aircraft in their inventory. These were delivered from 2005-2008. As of November 2011, Global Security, a non-government, non-military organization, reported that K-8 trainer aircraft had been exported to Sudan. Although K-8 were considered as jet trainer aircraft, the report pointed out that the ones sold to Sudan were configured for ground attack with a cannon mounted on the center line station. In 2004, Air Forces Monthly magazine reported that the Sudanese Air Force ordered six K-8 aircraft, which were delivered to Sudan in 2006. It was also reported that another six K-8 aircraft were scheduled to follow at a later unknown date.

In July 2008, BBC reported that satellite photos taken the previous month showed that K-8 planes had been stationed at an airport in Nyala, in southern Darfur. The BBC also reported that the planes had flown on missions out of Nyala in February 2008. In March 2008, unconfirmed reports disclosed that A-5 attack planes and K-8 military training planes produced by Hongdu had been spotted at Sudan's Wadi Sayyidna Air Force Base outside Khartoum.

In November 2009, Flight Global reported that exporter, China National Aero-Technology Import & Export, was in talks with five to six countries to sell Hongdu L-15 advanced jet trainer and Chengdu JF-17 fighter jets. There was no mention of a specific country, but during the air show, the Chinese delegation held meetings with countries including Iraq, Sudan, Mauritania, the United Arab Emirates, Nigeria, Pakistan, and Egypt.

Citadel Capital S.A.E.

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| EGS73541C012 | B40TX61 | CCAP | |

Materiality Summary:

Materiality Indicator: Assets

| % Assets from Sudan | Total Assets | Sudan Assets |
|---------------------|----------------|----------------|
| 14.48% | \$ 835,542,007 | \$ 121,016,000 |

Involvement Summary:

Summary of Involvement





As of August 2012, Citadel Capital, an Egypt-based diversified conglomerate, had subsidiaries engaged in Sudan's banking and financial services, agricultural and food production, solid waste management, cement production and management services, mining, power distribution, and logistics sectors. A January 2010 Citadel Capital press release stated that the company's investments in Sudan were expected to reach USD900 million by end of FY2010.

Details of Involvement

Banking & Financial Services

Citadel Capital disclosed in its 2011 Annual Report that the company's subsidiary, Finance Ltd., operated a Sudan-based Islamic commercial bank, Sudanese Egyptian Bank (SEB). SEB's primary purpose was to facilitate trade financing between Egypt and Sudan through its branches in the cities of Khartoum, Omdurman, and Port Sudan. In FY2010, SEB earned USD 5.1 million. As of December 2011, Citadel Capital disclosed that the estimated net value of SEB was USD 42 million. SEB maintained eight branches in Sudan. As of December 2011, Citadel Capital owned 100 percent of Finance Ltd.

Agriculture & Food

As of December 2011, Citadel Capital owned Wafra, which was engaged in agricultural production in Sudan. Wafra's majority owned subsidiary, Sabina, held 324,000 feddans (336,312 acres) of land intended for cash crops, grains, and sugar canes cultivation. As of December 2011, Sabina's land was in Kosti, White Nile State, southeastern Sudan, where the company had acquired a 30-year land lease. A July 2011 Citadel Capital press release reported that Sabina completed its first commercial wheat harvest in the country during the year. In April 2010, a Citadel Capital press release stated that another Wafra subsidiary, El-Nahda for Integrated Solutions (ENFIS), had signed an agreement with the White Nile Governorate for a 30-year lease on 60,000 feddans (25,200 hectares) of land in Ed Dueim, Sudan. ENFIS planned to build its first commercial rice farm and rice mill in the area. As of January 2012, Citadel Capital owned 99.9 percent of Wafra, which owned 94 percent of Sabina.

Gozour, Citadel Capital's food, agriculture, and dairy subsidiary, owned a majority stake in Al-Musharraf, a Sudan-based confectioner, biscuit manufacturer, and flour mill operator. Citadel Capital's 2010 Annual Report stated that an Al-Musharraf confectionery plant had resumed operations after rehabilitation during the year. A November 2009 Citadel Capital press release reported that Gozour acquired a stake in Al-Musharraf during the year for USD19 million. As of December 2011, Citadel Capital owned 20 percent of Gozour, which owned 75 percent of Al-Musharraf.

Solid Waste Management

As of December 2011, Citadel Capital's Tawazon continued to engage in solid waste management activities in Sudan through its subsidiary, the Engineering Tasks Group (ENTAG). In June 2010, ENTAG signed a contract with the Omdurman City in Sudan to establish a municipal solid waste sorting facility with a capacity of 960 tons per day. In its 2011 Annual Report, Citadel Capital reported that ENTAG would be completing facilities for waste sorting and composting in Sudan and other countries. As of December 2011, Citadel Capital owned 53.4 percent of Tawazon.

Cement Production and Management Services

Citadel Capital's subsidiary, ASEC Holding, held an indirect investment in Sudan through Al-Takamol Cement (ATC), which operated a USD 252.7 million cement production plant in the country. ATC, which commenced operations in August 2010, had the capacity to produce 1.6 million of tons of cement and 1.45 million tons of clinker annually and primarily served the local market. As of December 2011, ATC was a majority owned subsidiary of Egypt-based ASEC Cement, which reported that 63 percent of its





revenues during the year came from ATC. In 2011, ATC's market share in Sudan was 25 percent, and total sales of clinker and cement were 676,285 tons. The state-owned Sudanese National Pension Fund held a 49-percent stake in ATC.

In July 2010, a Citadel Capital press release reported that ASEC Engineering and Management, another ASEC Holding subsidiary, had signed a three-year renewable contract to provide technical management services for the privately owned Al Salam Cement plant in Sudan.

As of December 2011, Citadel Capital owned 48.5 percent of ASEC Holding, which in turn, owned 61.05 percent of ASEC Cement, which owned 51 percent of ATC. No ownership information was available for ASEC Engineering and Management.

Mining

ASEC Company for Mining (ASCOM), another Citadel Capital subsidiary, had a Khartoum-based subsidiary, Nebta for Geology and Mining (Nebta), which held a precious metals mining concession and quarrying contracts in Sudan. Nebta signed an agreement with Sudan's Mining & Energy Ministry for gold and base metals exploration rights on a 3,000-square kilometer concession in Sudan's Blue Nile State. Citadel Capital disclosed in its 2010 Annual report that its subsidiary, ASCOM Precious Metals Mining (APMM) commenced fieldwork, drilling, and geological surveys in the company's Blue Nile concession in October 2010. As of September 2011, APMM's Web site stated that extensive geological surveys were slated until 2012.

In May 2011, ASCOM told a U.S. pension fund that Nebta was engaged in the execution of geological studies and supply of raw materials for cement plants. In 2009, Nebta secured contracts with Sudanese firms Al Takamol Cement and Al Shamal Cement for the launch of limestone and calcium carbonate quarries in Atbarah, northeastern Sudan. The EGP 78-million (USD 13 million) contract with Al Takamol Cement was for one and a half years, while the EGP 480-million contract (USD 80 million) with Al Shamal Cement would be for five years. As of December 2011, Citadel Capital owned 39.2 percent of ASCOM, which owned 100 percent of Nebta and 99 percent of APMM.

Power Distribution

In December 2009, TAQA Arabia and ASEC Cement, both Citadel Capital subsidiaries, formed a joint venture with the state-owned Sudanese Pension Fund (SPF) to establish Berber for Electrical Power (BEP), a Sudan-based power generation facility. In May 2010, the USD67 million BEP power plant commenced operations with a capacity of 42 megawatts. BEP signed a 20-year contract with ASEC Cement for the provision of power in the Al Takamol Cement plant in Sudan. In January 2010, Citadel Capital reported that Global Energy, a TAQA Arabia subsidiary, held a 51-percent stake in BEP. Other shareholders included SPF and Asec Cement, which owned 25 percent and 24 percent of BEP, respectively. As of December 2011, Citadel Capital owned 34.9 percent of TAQA Arabia.

Logistics

Citadel Capital's 2011 Annual Report disclosed that its subsidiary, Nile Logistics, held a majority stake in Sudan-based Keer Marine, which operated river barges and a port in Kosti, a city in the southeastern part of Sudan. As of December 2011, Citadel Capital reported that Keer Marine had previously transported goods between Kosti and Juba, the capital of South Sudan. However, this route has been suspended due to the tenuous political situation between Sudan and South Sudan. In July 2009, Nile Logistics acquired 51 percent of Keer Marine. As of December 2011, Citadel Capital owned 34.2 percent of Nile Logistics.



Arizona State Retirement System

Sudan Scrutinized Companies and Held Companies

Reported November 2012

Holdings as of Sept. 30, 2012

Daging Huake Company Limited

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| CNE000001402 | 6277949 | 000985 | |

Materiality Summary:

Materiality Indicator: Assets

| % Assets from Sudan | Total Assets | Sudan Assets |
|---------------------|---------------|---------------|
| 13.66% | \$ 91,477,225 | \$ 12,500,000 |

Involvement Summary:

Summary of Involvement

As of September 2012, Daqing Huake, a China-based petrochemical products manufacturer, was a majority owned subsidiary of state-owned China National Petroleum Corporation (CNPC), which was engaged in oil and natural gas exploration, production, and refinery operations in Sudan. CNPC was also involved in the provision of engineering and oilfield services, and operation of a chemical facility. As of May 2012, Daqing Huake was 55.03 percent owned by CNPC.

Some of CNPC's oil assets, specifically Blocks 1, 2, 3, 4 and 7, were located in South Sudan. CNPC had signed separate agreements with the South Sudan government for the blocks, or portions of these blocks, that were within the territory of the new country. Following its secession from Sudan in July 2011, South Sudan had been exempted from U.S. sanctions. However, amended U.S. sanctions prohibit companies from engaging in South Sudan's petroleum industry if doing so would also benefit Sudan. As of September 2011, the oil produced from CNPC's South Sudan fields was transported to Sudan, where it was processed for domestic consumption or for export to other countries. However, in January 2012, disagreement between the two countries regarding oil transport fees and alleged oil shipment pilferage had led South Sudan to stop crude oil production and suspend oil exports via pipelines to Sudan. As of September 2012, the two countries had settled matters regarding oil transport fees, but still had security and border issues to resolve. As such, resumption of oil transport and production remained uncertain.

Details of Involvement

CNPC in Block 6, Sudan

As of September 2012, CNPC held a 95-percent stake in Block 6, a 17,900-square kilometer area in Sudan. The Khartoum-based Petro-Energy Operating Company (PEOC), which was established by CNPC under its production sharing agreement with Sudapet, operated the block. In 2001, CNPC discovered the Fula Oilfield, which entered the production stage in March 2004. In 2008, CNPC discovered additional reserves in the western area of the Fula Oilfield, allowing for further exploration activities in the area. In 2010, CNPC commenced the operation of a production facility in phase 3 of this block. The remaining stake in Block 6 was held by Sudapet.

PEOC disclosed on its Web site that it had eight oil fields in this concession: Fula, Moga, Keyi, Jake, Naha, Shoka, Hadida, and Suf. In 2007, production was at 40,000 barrels per day. PEOC also disclosed on its





Web site that CNPC had an agreement with the Sudanese Ministry of Energy and Mining to hold a 100-percent stake in a 716-kilometer pipeline with a transport capacity of 200,000 barrels per day.

CNPC in Block 15, Sudan

As of September 2012, CNPC held a 35-percent stake in Block 15, a 24,377-square kilometer onshore and offshore concession area in the Red Sea in northeastern Sudan. In August 2005, CNPC and its partners signed a production sharing contract with the Sudanese government for the development of this block. Operatorship of this block had been held by Red Sea Petroleum Operating Company (RSPOC), in which CNPC also held a 35 percent ownership stake. Other investors in RSPOC included Petronas (35 percent), Sudapet (15 percent), Nigerian Express (10 percent), and Hi-Tech (5 percent). In 2010, the RSPOC completed the drilling of two offshore exploration wells in the block.

CNPC in Block 13, Sudan

According to its 2009 Sudan Report, CNPC held a 40-percent stake in Block 13, an onshore and offshore concession in the Red Sea in northeastern Sudan. CNPC and its partners in the Block 13 concession signed the production sharing contract in June 2007. The operator of this block continued to be Coral Petroleum Operating Company (CPOC), in which CNPC also held a 40 percent stake. Other partners in CPOC were Pertamina (15 percent), Sudapet (15 percent), Nigerian Express (10 percent), Africa Energy (10 percent), and Dindir Petroleum (10 percent). As of September 2012, there were no updates regarding this project.

CNPC in Blocks 1, 2, and 4 Overlapping Sudan and South Sudan

As of September 2012, CNPC held a 40-percent stake in Blocks 1, 2, and 4, some areas of which straddled both Sudan and South Sudan. In March 1997, CNPC was awarded the tender for these blocks. The blocks were operated by Khartoum-based Greater Nile Petroleum Operating Company (GNPOC), which was established by CNPC and its partners in June 1997. In 1999, CNPC disclosed that it had built a 10-million ton per annum crude oil production facility after comprehensive geological research and exploration activities were conducted. In 2006, the Hamam South-1 well in Block 4 underwent testing and resulted in high yield oil flow. In 2008, Blocks 1, 2, and 4 sustained steady oil production. In addition, oil and gas reserves were observed in the first exploration well positioned to the south of Block 4's Bahr al-Arab River. In 2009, one of the testing wells, C-1, at the Azraq tectonic zone yielded high output, which showed the resource potential of the area. CNPC's 2009 Sudan Report disclosed that the GNPOC had identified 68 oil and gas reserves in these blocks during the year. In 2010, CNPC stated that it had made progress in its exploration activities in Blocks 1, 2, and 4. CNPC's consortium partners in GNPOC were Malaysia's Petronas (30 percent), India's Oil and Natural Gas Corporation (ONGC, 25 percent), and the Sudan state-owned Sudan National Petroleum Corp. (Sudapet 5 percent).

CNPC's 2009 Sudan Report disclosed that CNPC had built the Sudan Crude Oil Transportation System (SCOTS), a 1,506-kilometer crude oil pipeline from the Heglig field in the southern part of the Muglad Basin to Port Sudan, from May 1998 to April 1999. This pipeline had been operational since June 1999. ONGC's subsidiary, OVL, in its 2012 Director's report, stated that 70 percent of the ownership in SCOTS was transferred to the Sudanese government in 2006, but the GNPOC consortium continued to manage this pipeline.

As of September 2012, GNPOC stated on its Web site that it sourced more than 300,000 barrels of oil per day from eight major oil fields: Heglig, Unity, El Toor, El Noor, Toma South, Bamboo, Munga, and Diffra. The oil from these fields was then transported to the El Obied and Khartoum refineries for local consumption or to the marine terminals in Port Sudan for export to other countries.





In August 2012, Platts reported that CNPC had tried to resume production at Blocks 1, 2, and 4 located in Sudan during the month and managed to reach stable output. The article added that according to the U.S. Energy Information Administration, aggregate production for the three blocks reached an estimated 120,000 barrels per day in 2011.

CNPC's partner, ONGC, stated in its 2012 Annual Report that 60 percent of the concession of Blocks 1, 2, and 4 had become part of South Sudan after its after its secession from Sudan in July 2011. However, the transport pipeline, processing facilities, and port facilities were in Sudan. ONGC's subsidiary, OVL, reported in its 2012 Directors Report that in January 2012, OVL and its partners, CNPC, Petronas, and the South Sudan national oil company, Nile Petroleum Corporation (Nilepet), had signed a Transition Agreement with the Government of South Sudan for the continuation of petroleum exploration and production rights in Blocks 1,2, and 4. The consortium formed a new joint operating company, the Greater Pioneer Operating Company (GPOC), to handle petroleum operations in the three blocks. Production from the South Sudan side of these three blocks had been shut down since January 2012 in compliance with the South Sudanese government's decision. The members of the GPOC consortium held the following stakes in the blocks: OVL (25 percent), Petronas (30 percent), CNPC (40 percent), and Nilepet (5 percent).

CNPC in Blocks 3 & 7 in South Sudan

As of September 2012, CNPC held a 41-percent stake in Blocks 3 and 7, concessions in South Sudan. According to the Web site of the U.S. Energy Information Administration, these blocks became part South Sudan after its secession in July 2011. These blocks were operated by PetroDar Operating Company (PDOC), a firm in which CNPC also held a 41 percent stake. The other investors included Petronas (40 percent), Nilepet (8 percent), Sinopec (6 percent), and TriOcean Energy (5 percent). In August 2012, Platts Oilgram reported that CNPC was working with the South Sudan government to resume oil production in these blocks.

Prior to July 2011, these blocks were part of Sudan. In November 2000, CNPC was awarded the tender for these blocks, which covered a combined area of 72,400 square kilometers, in the southeastern part of Sudan. The blocks were operated by PDOC. CNPC's 2009 Sudan Report disclosed that CNPC commenced seismic operation and drilling activities in these blocks in December 2000. In 2003, CNPC discovered the Palogue oilfield, which had estimated oil reserves of more than 300 million tons. In 2008, CNPC increased its daily output from the blocks by drilling new wells. CNPC's offshore terminal connecting the crude pipeline from Palogue was completed and began operations in 2009.

CNPC's 2009 Sudan report also noted that the Moleeta Oilfield was another significant resource discovery with estimated reserves amounting to 100 million tons. Other discoveries included several smaller oilfields that had an estimated 10 million tons in reserves. In 2010, CNPC conducted further exploration in the blocks. CNPC's 2010 Annual Report stated that Phase 2 of Blocks 3 and 7 was put into operation during the year.

Khartoum Refinery Company

As of September 2012, CNPC held a 50-percent stake in the Khartoum Refinery, a joint venture with the Sudanese Ministry of Energy and Mining. The construction of the Khartoum Refinery, which had an annual crude processing capacity of 5 million tons, began in May 1998, followed by operations in May 2000. In November 2009, CNPC and Sudan's Ministry of Energy and Mining signed a memorandum of understanding for the second phase of the Khartoum Refinery's expansion. This included the construction of wastewater treatment facilities worth USD27 million from 2009 to 2010 as part of the refinery's environmental protection project.





Khartoum Petrochemical Company

CNPC's Sudan 2009 Report stated that the company held a 95-percent stake in the Khartoum Petrochemical Company (KPC), which had a 20-kiloton per annum polypropylene production facility. The remaining stake in KPC was held by the Sudanese Ministry of Energy and Mining.

CNODC Petrochemical Trading Company

CNPC's 2009 Sudan Report also disclosed that the company engaged in fuel trading activities in Sudan through its subsidiary, CNODC Petrochemical Trading Company (CNODC-PTC), which was established in Sudan in May 2000. CNODC-PTC had built six refueling stations and one fuel depot in the country since 2001. The company annually marketed 100,000 tons of diesel and gasoline. As of December 2009, CNPC wholly owned CNODC-PTC. No updated information was available as of September 2012.

CNPC's Engineering and Oilfield Services

As of September 2012, CNPC had provided engineering oilfield services, such as seismic data acquisition and processing services, oil service engineering, and pipeline, refinery, and petrochemical plant construction to its own joint ventures and other oil and gas joint ventures operating in Sudan. CNPC's 2009 Sudan Report disclosed that the Sudan branch of CNPC's subsidiary, CNPC Engineering and Construction Company (CPECC), was awarded the construction and expansion of CNPC's Khartoum Refinery Company. CNPC's 2010 Annual Report disclosed that CPECC was awarded a contract for the Phase-2 of the Palouge oilfield Power Plant project in Blocks 3 and 7. CNPC's Annual Report also stated that CPECC completed the contract to execute the environmental protection project for the Khartoum refinery during the year. In September 2010, Tenders Info reported that CNPC's subsidiary, Great Wall Drilling Company (GWDC), was awarded with a USD30 million oil drilling services contract in CNPC's concession in Blocks 3 and 7. GWDC was also the contractor for CNPC's concession for Blocks 1, 2, and 4. As of September 2012, no ownership information was available for GWDC or CPECC.

El Sewedy Electric Co SAE

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| EGS3G0Z1C014 | B15Q010 | SWDY | |

Materiality Summary:

Materiality Indicator: Revenue

| % Revenue from Sudan | Total Revenue | Sudan Revenue |
|----------------------|------------------|---------------|
| 2.50% | \$ 2,515,205,667 | \$ 62,880,142 |

Involvement Summary:

As of August 2012, El Sewedy Electric (formerly El Sewedy Cables), an Egypt-based electrical components manufacturer, operated a production facility for cables and transformers in Sudan. In addition, the company maintained four Sudan-based subsidiaries. As of March 2012, El Sewedy Electric owned 70 percent of the Sudanese Egyptian Electric, 96.9 percent of El Sewedy Energy Distribution





Sudan, and 45 percent of Giad-El Sewedy Cables (GESCO). Giad, a Sudan-state owned firm, held the remaining 55 percent of GESCO. In its March 2012 Consolidated Financial Statements, El Sewedy Electric reported that its Sudan-based subsidiary, Giad-El Sewedy for Transport (99 percent owned), was under liquidation.

In November 2011, El Sewedy Electric told a U.S. pension fund that the company's business in Sudan comprised approximately 2.5 percent of the total group revenues. As of December 2011, El Sewedy reported that revenues and assets from Sudan were EGY 436.2 million (USD 72.1 million) and EGY 440.4 million (USD 72.8 million), respectively.

According to its 2010 Annual Report, El Sewedy Electric had various projects in Sudan. In a 2010 brochure, El Sewedy Electric disclosed that the company, through its Egypt-based subsidiary, El Sewedy Electric Transmission and Distribution (EE T&D), had nine contracts with Sudan state-owned National Electricity Corporation (NEC) to install overhead transmission lines and substations in the country. The total amount of the contracts was approximately USD 269.25 million. The duration of the projects was between 8 to 20 months. As of August 2012, the company provided no information regarding the progress of these projects. The company reported in its March 2012 Consolidated Financial Statements that Sudan's National Electricity Authority owed El Sewedy Electric EGY 16.3 million (USD 2.7 million) in sales.

Electricity Generating Public Company Limited

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| TH0465010005 | 6304632 | EGCO | |

Materiality Summary:

Materiality Indicator: Revenue

| % Revenue from Sudan | Total Revenue | Sudan Revenue |
|----------------------|----------------|---------------|
| 2.70% | \$ 242,701,595 | \$ 6,552,943 |

Involvement Summary:

As of August 2012, Electricity Generating Public Company Limited (EGCO), a Thailand-based independent power producer, continued to provide services to the Sudan state-owned National Electricity Corporation (NEC) through its subsidiary, EGCO Engineering and Service Industry (ESCO). In August 2012, EGCO told MSCI ESG Research that ESCO provided maintenance services, personnel training programs, and spare parts for NEC's power plants in Sudan. EGCO disclosed that its contract in Sudan would expire in 2013. The company added that its business in the country had no political or military nature. In July 2010, EGCO told MSCI ESG Research that the company's Sudan operations generated approximately TBH 246.95 million (USD 7.5 million) of revenues in FY 2009, which represented about 2.7 percent of the company's total sales. As of August 2012, EGCO who lly owned ESCO.



Arizona State Retirement System
Sudan Scrutinized Companies and Held Companies
Reported November 2012
Holdings as of Sept. 30, 2012

Harbin Electric Company Limited

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| CNE1000003C0 | 6422761 | 1133 | |

Materiality Summary:

Materiality Indicator: Revenue

| % Revenue from Sudan | Total Revenue | Sudan Revenue |
|----------------------|------------------|---------------|
| 1.06% | \$ 4,526,138,804 | \$ 48,090,836 |

Involvement Summary:

Summary of Involvement

As of September 2012, Harbin Electric Company Limited (HEC, formerly Harbin Power Equipment Company), a China-based power equipment manufacturer and power station engineering services provider, supplied power generation equipment in Sudan. In addition, the company, through its subsidiary Harbin Electric International (HEI), was involved in a coal-fired power plant and hydropower transmission projects in the country. HEI also maintained a Khartoum-based office. As of December 2011, HEC wholly owned HEI.

Details of Involvement

Provision of Power Generation Equipment

According to HEC's 2010 Annual Report, the company signed an electric machinery turn-key contract with Sudan's Dams Implementation Unit for the provision of six 60-megawatt hydropower units for Sudan's Kajbar hydropower project in November 2010. As of September 2012, there was no update available regarding the progress of this project.

Red Sea Coal-fired Power Plant Project

In December 2011, HEI signed an Engineering, Construction, Procurement (EPC) contract with the Sudanese Ministry of Electricity and Dams (MED) for the Red Sea coal-fired power plant project in Port Sudan. The scope of the project included two units of 300 MW coal-fired power plants, desalination plants, coal terminals and services pier, a 220 kV double circuit transmission line, the expansion of a 220 kV substation, and new 33 kV substations.

Hydropower Transmission and Conversion Project

In December 2011, HEI disclosed that the Dongla-Wadi Halfa Transmission Line Project, the Sudan Dam Complex of Upper Atbara Project, and the 220kv River Nile Transmission Project were still under construction.

According to a December 2008 press release, HEI signed a contract with the Sudanese government for the construction of Dongla-Wadi Halfa Transmission Line Project in northwestern Sudan. This project included the design, supply, construction, commissioning, and trial operation of the 400-kilometer, 220-kilovolt transmission line.





In June 2011, Sudan Radio reported that HEI and other international contractors signed a USD 119.8 million contract with Sudan's Dam Implementation Unit for the implementation of electrical and mechanical works on the Sudan Dam Complex of the Upper Atbara Project. The dam was constructed by China Three Gorges Corporation (CTGC) and China Water and Electric (CWE) at a cost of USD 838 million. As of December 2011, the project was reported to be 15 percent completed. As of April 2012, PreserveNile estimated the total project cost at USD 1.9 billion. As of September 2012, there was no update available regarding the progress of this project.

Completed Projects in Sudan

In December 2011, a HEI press release reported that the Sudan Garri I Combined Cycle Power Station, Sudan Garri II Combined Cycle Power Station and the Merowe Dam Transmission Lines Project had been completed. HEC was the principal contractor for the Merowe Transmission Line project, which was completed in June 2010. As part of the project, the company built seven substations and approximately 1,000 miles of transmission lines. The Garri I Combined Cycle Power Plant started construction in 2001.

Jiangxi Hongdu Aviation Industry Co., Ltd.

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| CNE0000015N3 | 6304375 | 600316 | |

Materiality Summary:

Materiality Indicator: Revenue

| % Revenue from Sudan | Total Revenue | Sudan Revenue |
|----------------------|-------------------------|---------------|
| 3.79% | \$ 289,901 ,1 86 | \$ 11,000,000 |

Involvement Summary:

Summary of Involvement

As of August 2012, Jiangxi Hongdu Aviation Industry (formerly Nanchang Aviation Manufacturing Company), a China-based military aircraft manufacturer, provided training for maintenance of its K-8 aircraft in Sudan. The company was previously reported to have sold aircraft to Sudan.

Details of Involvement

Operations in Sudan

In August 2012, a company press release reported that it had completed a training course on K-8 aircraft maintenance in Sudan. As of August 2012, the Arms Trade Register of the Stockholm International Peace Research Institute reported that the Sudanese armed forces had 12 K-8 aircraft in their inventory. These were delivered from 2005-2008. As of November 2011, Global Security, a non-government, non-military organization, reported that K-8 trainer aircraft had been exported to Sudan. Although K-8 were considered as jet trainer aircraft, the report pointed out that the ones sold to Sudan were configured for ground attack with a cannon mounted on the center line station. In 2004, Air Forces Monthly magazine reported that the Sudanese Air Force ordered six K-8 aircraft, which were delivered to Sudan in 2006. It was also reported that another six K-8 aircraft were scheduled to follow at a later unknown date.





In July 2008, BBC reported that satellite photos taken the previous month showed that K-8 planes had been stationed at an airport in Nyala, in southern Darfur. The BBC also reported that the planes had flown on missions out of Nyala in February 2008. In March 2008, unconfirmed reports disclosed that A-5 attack planes and K-8 military training planes produced by Hongdu had been spotted at Sudan's Wadi Sayyidna Air Force Base outside Khartoum.

In November 2009, Flight Global reported that exporter, China National Aero-Technology Import & Export, was in talks with five to six countries to sell Hongdu L-15 advanced jet trainer and Chengdu JF-17 fighter jets. There was no mention of a specific country, but during the air show, the Chinese delegation held meetings with countries including Iraq, Sudan, Mauritania, the United Arab Emirates, Nigeria, Pakistan, and Egypt.

Jinan Diesel Engine Company Limited

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| CNE000000MS3 | 6486109 | 000617 | |

Materiality Summary:

Materiality Indicator: Assets

| % Assets from Sudan | Total Assets | Sudan Assets |
|---------------------|-------------------------|--------------|
| 1.00% | \$ 512,175, 1 01 | \$ 5,000,000 |

Involvement Summary:

Summary of Involvement

As of September 2012, Jinan Diesel Engine Company (JDEC), a China-based diesel and gas engine manufacturer, exported generators and engines to Sudan through its subsidiary, Jinan Jinchai Huanneng Gas Generating Equipment Company (JJHGGEC). JDEC provided no ownership information on JJHGGEC.

JDEC was also a majority owned subsidiary of China National Petroleum Corporation (CNPC), which was engaged in oil and natural gas exploration, production, and refinery operations in Sudan. CNPC was also involved in the provision of engineering and oilfield services, and operation of a chemical facility. As of April 2012, JDEC was 60 percent owned by CNPC.

Some of CNPC's oil assets, specifically Blocks 1, 2, 3, 4 and 7, were located in South Sudan. CNPC had signed separate agreements with the South Sudan government for the blocks, or portions of these blocks, that were within the territory of the new country. Following its secession from Sudan in July 2011, South Sudan had been exempted from U.S. sanctions. However, amended U.S. sanctions prohibit companies from engaging in South Sudan's petroleum industry if doing so would also benefit Sudan. As of September 2011, the oil produced from CNPC's South Sudan fields was transported to Sudan, where it was processed for domestic consumption or for export to other countries. However, in January 2012, disagreement between the two countries regarding oil transport fees and alleged oil shipment pilferage had led South Sudan to stop crude oil production and suspend oil exports via pipelines to Sudan. As of September 2012, the two countries had settled matters regarding oil transport fees, but still had





security and border issues to resolve. As such, resumption of oil transport and production remained uncertain.

Details of Involvement

CNPC in Block 6, Sudan

As of September 2012, CNPC held a 95-percent stake in Block 6, a 17,900-square kilometer area in Sudan. The Khartoum-based Petro-Energy Operating Company (PEOC), which was established by CNPC under its production sharing agreement with Sudapet, operated the block. In 2001, CNPC discovered the Fula Oilfield, which entered the production stage in March 2004. In 2008, CNPC discovered additional reserves in the western area of the Fula Oilfield, allowing for further exploration activities in the area. In 2010, CNPC commenced the operation of a production facility in phase 3 of this block. The remaining stake in Block 6 was held by Sudapet.

PEOC disclosed on its Web site that it had eight oil fields in this concession: Fula, Moga, Keyi, Jake, Naha, Shoka, Hadida, and Suf. In 2007, production was at 40,000 barrels per day. PEOC also disclosed on its Web site that CNPC had an agreement with the Sudanese Ministry of Energy and Mining to hold a 100-percent stake in a 716-kilometer pipeline with a transport capacity of 200,000 barrels per day.

CNPC in Block 15, Sudan

As of September 2012, CNPC held a 35-percent stake in Block 15, a 24,377-square kilometer onshore and offshore concession area in the Red Sea in northeastern Sudan. In August 2005, CNPC and its partners signed a production sharing contract with the Sudanese government for the development of this block. Operatorship of this block had been held by Red Sea Petroleum Operating Company (RSPOC), in which CNPC also held a 35 percent ownership stake. Other investors in RSPOC included Petronas (35 percent), Sudapet (15 percent), Nigerian Express (10 percent), and Hi-Tech (5 percent). In 2010, the RSPOC completed the drilling of two offshore exploration wells in the block.

CNPC in Block 13, Sudan

According to its 2009 Sudan Report, CNPC held a 40-percent stake in Block 13, an onshore and offshore concession in the Red Sea in northeastern Sudan. CNPC and its partners in the Block 13 concession signed the production sharing contract in June 2007. The operator of this block continued to be Coral Petroleum Operating Company (CPOC), in which CNPC also held a 40 percent stake. Other partners in CPOC were Pertamina (15 percent), Sudapet (15 percent), Nigerian Express (10 percent), Africa Energy (10 percent), and Dindir Petroleum (10 percent). As of September 2012, there were no updates regarding this project.

CNPC in Blocks 1, 2, and 4 Overlapping Sudan and South Sudan

As of September 2012, CNPC held a 40-percent stake in Blocks 1, 2, and 4, some areas of which straddled both Sudan and South Sudan. In March 1997, CNPC was awarded the tender for these blocks. The blocks were operated by Khartoum-based Greater Nile Petroleum Operating Company (GNPOC), which was established by CNPC and its partners in June 1997. In 1999, CNPC disclosed that it had built a 10-million ton per annum crude oil production facility after comprehensive geological research and exploration activities were conducted. In 2006, the Hamam South-1 well in Block 4 underwent testing and resulted in high yield oil flow. In 2008, Blocks 1, 2, and 4 sustained steady oil production. In addition, oil and gas reserves were observed in the first exploration well positioned to the south of Block 4's Bahr al-Arab River. In 2009, one of the testing wells, C-1, at the Azraq tectonic zone yielded high output, which showed the resource potential of the area. CNPC's 2009 Sudan Report disclosed that the GNPOC had identified 68 oil and gas reserves in these blocks during the year. In 2010, CNPC stated that it had





made progress in its exploration activities in Blocks 1, 2, and 4. CNPC's consortium partners in GNPOC were Malaysia's Petronas (30 percent), India's Oil and Natural Gas Corporation (ONGC, 25 percent), and the Sudan state-owned Sudan National Petroleum Corp. (Sudapet 5 percent).

CNPC's 2009 Sudan Report disclosed that CNPC had built the Sudan Crude Oil Transportation System (SCOTS), a 1,506-kilometer crude oil pipeline from the Heglig field in the southern part of the Muglad Basin to Port Sudan, from May 1998 to April 1999. This pipeline had been operational since June 1999. ONGC's subsidiary, OVL, in its 2012 Director's report, stated that 70 percent of the ownership in SCOTS was transferred to the Sudanese government in 2006, but the GNPOC consortium continued to manage this pipeline.

As of September 2012, GNPOC stated on its Web site that it sourced more than 300,000 barrels of oil per day from eight major oil fields: Heglig, Unity, El Toor, El Noor, Toma South, Bamboo, Munga, and Diffra. The oil from these fields was then transported to the El Obied and Khartoum refineries for local consumption or to the marine terminals in Port Sudan for export to other countries.

In August 2012, Platts reported that CNPC had tried to resume production at Blocks 1, 2, and 4 located in Sudan during the month and managed to reach stable output. The article added that according to the U.S. Energy Information Administration, aggregate production for the three blocks reached an estimated 120,000 barrels per day in 2011.

CNPC's partner, ONGC, stated in its 2012 Annual Report that 60 percent of the concession of Blocks 1, 2, and 4 had become part of South Sudan after its after its secession from Sudan in July 2011. However, the transport pipeline, processing facilities, and port facilities were in Sudan. ONGC's subsidiary, OVL, reported in its 2012 Directors Report that in January 2012, OVL and its partners, CNPC, Petronas, and the South Sudan national oil company, Nile Petroleum Corporation (Nilepet), had signed a Transition Agreement with the Government of South Sudan for the continuation of petroleum exploration and production rights in Blocks 1,2, and 4. The consortium formed a new joint operating company, the Greater Pioneer Operating Company (GPOC), to handle petroleum operations in the three blocks. Production from the South Sudan side of these three blocks had been shut down since January 2012 in compliance with the South Sudanese government's decision. The members of the GPOC consortium held the following stakes in the blocks: OVL (25 percent), Petronas (30 percent), CNPC (40 percent), and Nilepet (5 percent).

CNPC in Blocks 3 & 7 in South Sudan

As of September 2012, CNPC held a 41-percent stake in Blocks 3 and 7, concessions in South Sudan. According to the Web site of the U.S. Energy Information Administration, these blocks became part South Sudan after its secession in July 2011. These blocks were operated by PetroDar Operating Company (PDOC), a firm in which CNPC also held a 41 percent stake. The other investors included Petronas (40 percent), Nilepet (8 percent), Sinopec (6 percent), and TriOcean Energy (5 percent). In August 2012, Platts Oilgram reported that CNPC was working with the South Sudan government to resume oil production in these blocks.

Prior to July 2011, these blocks were part of Sudan. In November 2000, CNPC was awarded the tender for these blocks, which covered a combined area of 72,400 square kilometers, in the southeastern part of Sudan. The blocks were operated by PDOC. CNPC's 2009 Sudan Report disclosed that CNPC commenced seismic operation and drilling activities in these blocks in December 2000. In 2003, CNPC discovered the Palogue oilfield, which had estimated oil reserves of more than 300 million tons. In 2008, CNPC increased its daily output from the blocks by drilling new wells. CNPC's offshore terminal connecting the crude pipeline from Palogue was completed and began operations in 2009.





CNPC's 2009 Sudan report also noted that the Moleeta Oilfield was another significant resource discovery with estimated reserves amounting to 100 million tons. Other discoveries included several smaller oilfields that had an estimated 10 million tons in reserves. In 2010, CNPC conducted further exploration in the blocks. CNPC's 2010 Annual Report stated that Phase 2 of Blocks 3 and 7 was put into operation during the year.

Khartoum Refinery Company

As of September 2012, CNPC held a 50-percent stake in the Khartoum Refinery, a joint venture with the Sudanese Ministry of Energy and Mining. The construction of the Khartoum Refinery, which had an annual crude processing capacity of 5 million tons, began in May 1998, followed by operations in May 2000. In November 2009, CNPC and Sudan's Ministry of Energy and Mining signed a memorandum of understanding for the second phase of the Khartoum Refinery's expansion. This included the construction of wastewater treatment facilities worth USD27 million from 2009 to 2010 as part of the refinery's environmental protection project.

Khartoum Petrochemical Company

CNPC's Sudan 2009 Report stated that the company held a 95-percent stake in the Khartoum Petrochemical Company (KPC), which had a 20-kiloton per annum polypropylene production facility. The remaining stake in KPC was held by the Sudanese Ministry of Energy and Mining.

CNODC Petrochemical Trading Company

CNPC's 2009 Sudan Report also disclosed that the company engaged in fuel trading activities in Sudan through its subsidiary, CNODC Petrochemical Trading Company (CNODC-PTC), which was established in Sudan in May 2000. CNODC-PTC had built six refueling stations and one fuel depot in the country since 2001. The company annually marketed 100,000 tons of diesel and gasoline. As of December 2009, CNPC wholly owned CNODC-PTC. No updated information was available as of September 2012.

CNPC's Engineering and Oilfield Services

As of September 2012, CNPC had provided engineering oilfield services, such as seismic data acquisition and processing services, oil service engineering, and pipeline, refinery, and petrochemical plant construction to its own joint ventures and other oil and gas joint ventures operating in Sudan. CNPC's 2009 Sudan Report disclosed that the Sudan branch of CNPC's subsidiary, CNPC Engineering and Construction Company (CPECC), was awarded the construction and expansion of CNPC's Khartoum Refinery Company. CNPC's 2010 Annual Report disclosed that CPECC was awarded a contract for the Phase-2 of the Palouge oilfield Power Plant project in Blocks 3 and 7. CNPC's Annual Report also stated that CPECC completed the contract to execute the environmental protection project for the Khartoum refinery during the year. In September 2010, TendersInfo reported that CNPC's subsidiary, Great Wall Drilling Company (GWDC), was awarded with a USD30 million oil drilling services contract in CNPC's concession in Blocks 3 and 7. GWDC was also the contractor for CNPC's concession for Blocks 1, 2, and 4. As of September 2012, no ownership information was available for GWDC or CPECC.

La Mancha Resources Inc

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| CA5035481095 | 2584290 | LMA | 503548109 |





Materiality Summary:

Materiality Indicator: Assets

| % Assets from Sudan | Total Assets | Sudan Assets |
|---------------------|----------------|---------------|
| 26.67% | \$ 222,031,864 | \$ 59,205,600 |

Involvement Summary:

Summary of Involvement

As of August 2012, La Mancha Resources (La Mancha), a Canada-based gold mining firm, held a stake in Sudan's Hassai Mine exploration and production concession through the Sudan-based Ariab Mining Company (AMC), a joint venture with the government of Sudan. In addition, the company held majority stake in the Nuba Mountain Project (NMP), a mining exploration concession in South Kordofan, Sudan. La Mancha also qualified for substantial action through the company's significant humanitarian efforts in the country, certified by U.S.-based law firm Foley Hoag in October 2007. As of December 2011, La Mancha held a 40-percent stake in AMC, and 70 percent share in NMP.

La Mancha reported that because it was a minority owner of the Hassai mine, it had limited control over the mine's destiny and was therefore confined to the investment and operational decisions made by the AMC board of directors. The company stated that if it were to exit from the Hassai mine, the Government of Sudan would benefit from a right of first refusal and would be able to increase its ownership level in the mine. However, in October 2007, La Mancha agreed to halt all new investment in Sudan other than those required for the continuity of the mine's operations, until the peacekeeping force mandated by United Nations Security Council Resolution 1769 had been deployed to Darfur and other provisions mandated by the resolution had been implemented by the Government of Sudan. La Mancha's CEO and President met with Sudan's Minister of Energy and Mining to encourage the Sudanese Government to fully comply with the implementation of United Nations Security Council Resolution 1769. In November 2008, La Mancha confirmed that the company's management remained in communication with the minister on this issue.

Details of Involvement

Hassai Mine & Hassai VMS Project

In 2006, La Mancha acquired a stake in the Hassai M ne in northeastern Sudan from its France-based parent Areva. The mine, which had been operating since 1992, had 18 open pits that were developed through the years for the mining of high grade oxide ore. The company's share in the mine's 2010 gold production was 27,374 ounces. In 2011, La Mancha's expected gold production share was 28,000 ounces. According to its 2010 Annual Report, La Mancha's net revenue from Sudan during the year was CAD6.8 million (USD 6.8 million), and total assets were CAD43.6 million (USD43.6 million). Other shareholders of this mine included the Sudanese government (56 percent), and an unidentified private shareholder (4 percent).

La Mancha had planned to further develop the deeper volcanogenic massive sulphide (VMS) deposits found in six of the 18 mine pits through the Hassai VMS project. This project was composed of two investment phases: the construction of a carbon-in-leach (CIL) facility, which would process the open pit resources, and the extraction of the VMS ore. In late 2007, La Mancha commenced the drilling of two promising VMS deposits in order to confirm and quantify their potential. This drilling activity resulted in the identification of the Hassai South and Hadal Awatib pits, which were two of the six identified VMS





targets that showed gold, silver, and copper resource potential. The company published a positive preliminary economic assessment (PEA) for the identified VMS targets. In September 2010, the company commenced a 12-month drilling program to increase the resource potential of the Hassai South and Hadal Awatib pits, and assess the structure of a newly identified VMS target, the Hadayamet pit. In May 2011, the definitive feasibility study for the CIL facility showed positive and profitable results. The company planned to proceed with the construction of the estimated USD191.2 million CIL facility in the fall of 2011. La Mancha also disclosed that it had a USD18.6-million exploration and drilling program underway, which was scheduled for completion sometime in October 2011. The Hassai VMS project was expected to be in production by 2013. La Mancha expected that the yearly production for the first phase of the project to be 162,000 ounces, with expected cash cost at USD571 per ounce. The company's September 2011 press release disclosed that La Mancha had identified a fourth pit, the Hadal Awatib West, for drilling before the end of 2011.

According to La Mancha's 2011 Annual Report, the Hassai VMS project development was ongoing, but the planned construction of the CIL facility was suspended due to the political changes brought about by the secession of South Sudan from Sudan, and the ongoing negotiations with the company's Sudanese partners. Once the negotiations have been completed, La Mancha expected that construction of the CIL would start and be completed in 18 months. As of December 2011, the exploration and evaluation cost of the Hassai VMS project was CAD 4 million (USD 3.9 million), and the CIL and pipeline project was CAD 663,000 (USD 650,032). The value of gold ounces produced in the country was CAD 28.6 million (USD 28.1 million) in 2011.

La Mancha's February 2012 press release reported that the Hassai Mine's VMS resource estimates had increased as a result of the company's exploratory drilling activities in the Hadal Awatib East, Hadayamet, and Hassai South pits.

Nuba Mountain Project

La Mancha's NMP concession underwent the geological mapping, soil sampling, and gravity surveys as part of the first phase of exploration from November 2009 to May 2010. A July 2010 company press release disclosed that one of the company's eight best prospects, the Tumluk, had potential gold, silver, copper, lead, and zinc deposits. Following this result, the company had planned a ground electromagnetic geophysical survey for the Tumluk prospect in addition to initial exploration activities. La Mancha had scheduled a drilling campaign for the Tumluk prospect in 2011. The company also disclosed that the rest of the prospective areas were scheduled for detailed geophysical surveys. La Mancha's exploration budget for this mine was CAD 900,000 (USD 882,396) in 2011.

Substantial action through Humanitarian efforts

La Mancha had undertaken multiple humanitarian programs in Sudan to benefit marginalized populations near the company's Hassai mine. In October 2007, the law firm Foley Hoag completed its third-party assessment of the company's operations and humanitarian programs in Sudan, at a cost of CAD70,000 (USD73,322). In 2007, AMC contributed CAD300,000 (USD305,496) to a regional development fund, which represented approximately four percent of the AMC's fiscal year 2007 profits of CAD6.7 million (USD6.8 million). As of fiscal year 2007, La Mancha had contributed CAD2.5 million (USD2.5 million) to the fund that had been used to build schools, medical facilities, water infrastructure, and power infrastructure in the region. AMC had also made substantial direct donations of food supplies to communities near the mine. As of September 2008, the Sudan Divestment Task Force (SDTF) evaluated La Mancha's humanitarian operations in Sudan based on the Foley Hoag evaluation. SDTF determined that the company's humanitarian operations satisfy the requirements for substantial action according to targeted divestment criteria. In November 2008, the company confirmed that it anticipated





making a CAD50,000 (USD40,316) donation to support Enfants du Monde's efforts in Sudan by the end of 2008.

La Mancha also had a Sudan policy in place for its investments in the country, available on its Web site. In this document, the company disclosed its policies towards the Beja people, which was recognized as one of Sudan's marginalized groups.

PetroChina Company Limited

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| CNE1000007Q1 | B28SLD9 | 601857 | 71646E100 |

Materiality Summary:

Materiality Indicator: Assets

| % Assets from Sudan | Total Assets | Sudan Assets |
|---------------------|--------------------|----------------|
| 0.25% | \$ 304,585,829,280 | \$ 750,000,000 |

Involvement Summary:

Summary of Involvement

As of September 2012, PetroChina Company (PetroChina), a China-based oil and gas exploration and production company, was a majority owned subsidiary of state-owned China National Petroleum Corporation (CNPC), which was engaged in oil and natural gas exploration, production, and refinery operations in Sudan. CNPC was also involved in the provision of engineering and oilfield services, and operation of a chemical facility. As of December 2011, CNPC owned 86.51 percent stake of PetroChina.

Some of CNPC's oil assets, specifically Blocks 1, 2, 3, 4 and 7, were located in South Sudan. CNPC had signed separate agreements with the South Sudan government for the blocks, or portions of these blocks, that were within the territory of the new country. Following its secession from Sudan in July 2011, South Sudan had been exempted from U.S. sanctions. However, amended U.S. sanctions prohibit companies from engaging in South Sudan's petroleum industry if doing so would also benefit Sudan. As of September 2011, the oil produced from CNPC's South Sudan fields was transported to Sudan, where it was processed for domestic consumption or for export to other countries. However, in January 2012, disagreement between the two countries regarding oil transport fees and alleged oil shipment pilferage had led South Sudan to stop crude oil production and suspend oil exports via pipelines to Sudan. As of September 2012, the two countries had settled matters regarding oil transport fees, but still had security and border issues to resolve. As such, resumption of oil transport and production remained uncertain.

Details of Involvement

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Fula Oilfield, which entered the production stage in March 2004. In 2008, CNPC discovered additional reserves in the western area of the Fula Oilfield, allowing for further exploration activities in the area. In 2010, CNPC commenced the operation of a production facility in phase 3 of this block. The remaining stake in Block 6 was held by Sudapet.

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CNPC in Blocks 1, 2, and 4 Overlapping Sudan and South Sudan

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CNPC's partner, ONGC, stated in its 2012 Annual Report that 60 percent of the concession of Blocks 1, 2, and 4 had become part of South Sudan after its after its secession from Sudan in July 2011. However, the transport pipeline, processing facilities, and port facilities were in Sudan. ONGC's subsidiary, OVL, reported in its 2012 Directors Report that in January 2012, OVL and its partners, CNPC, Petronas, and the South Sudan national oil company, Nile Petroleum Corporation (Nilepet), had signed a Transition Agreement with the Government of South Sudan for the continuation of petroleum exploration and production rights in Blocks 1,2, and 4. The consortium formed a new joint operating company, the Greater Pioneer Operating Company (GPOC), to handle petroleum operations in the three blocks. Production from the South Sudan side of these three blocks had been shut down since January 2012 in compliance with the South Sudanese government's decision. The members of the GPOC consortium held the following stakes in the blocks: OVL (25 percent), Petronas (30 percent), CNPC (40 percent), and Nilepet (5 percent).

CNPC in Blocks 3 & 7 in South Sudan

As of September 2012, CNPC held a 41-percent stake in Blocks 3 and 7, concessions in South Sudan. According to the Web site of the U.S. Energy Information Administration, these blocks became part South Sudan after its secession in July 2011. These blocks were operated by PetroDar Operating Company (PDOC), a firm in which CNPC also held a 41 percent stake. The other investors included Petronas (40 percent), Nilepet (8 percent), Sinopec (6 percent), and TriOcean Energy (5 percent). In August 2012, Platts Oilgram reported that CNPC was working with the South Sudan government to resume oil production in these blocks.

Prior to July 2011, these blocks were part of Sudan. In November 2000, CNPC was awarded the tender for these blocks, which covered a combined area of 72,400 square kilometers, in the southeastern part of Sudan. The blocks were operated by PDOC. CNPC's 2009 Sudan Report disclosed that CNPC commenced seismic operation and drilling activities in these blocks in December 2000. In 2003, CNPC discovered the Palogue oilfield, which had estimated oil reserves of more than 300 million tons. In 2008, CNPC increased its daily output from the blocks by drilling new wells. CNPC's offshore terminal connecting the crude pipeline from Palogue was completed and began operations in 2009.

CNPC's 2009 Sudan report also noted that the Moleeta Oilfield was another significant resource discovery with estimated reserves amounting to 100 million tons. Other discoveries included several smaller oilfields that had an estimated 10 million tons in reserves. In 2010, CNPC conducted further exploration in the blocks. CNPC's 2010 Annual Report stated that Phase 2 of Blocks 3 and 7 was put into operation during the year.

Khartoum Refinery Company





As of September 2012, CNPC held a 50-percent stake in the Khartoum Refinery, a joint venture with the Sudanese Ministry of Energy and Mining. The construction of the Khartoum Refinery, which had an annual crude processing capacity of 5 million tons, began in May 1998, followed by operations in May 2000. In November 2009, CNPC and Sudan's Ministry of Energy and Mining signed a memorandum of understanding for the second phase of the Khartoum Refinery's expansion. This included the construction of wastewater treatment facilities worth USD27 million from 2009 to 2010 as part of the refinery's environmental protection project.

Khartoum Petrochemical Company

CNPC's Sudan 2009 Report stated that the company held a 95-percent stake in the Khartoum Petrochemical Company (KPC), which had a 20-kiloton per annum polypropylene production facility. The remaining stake in KPC was held by the Sudanese Ministry of Energy and Mining.

CNODC Petrochemical Trading Company

CNPC's 2009 Sudan Report also disclosed that the company engaged in fuel trading activities in Sudan through its subsidiary, CNODC Petrochemical Trading Company (CNODC-PTC), which was established in Sudan in May 2000. CNODC-PTC had built six refueling stations and one fuel depot in the country since 2001. The company annually marketed 100,000 tons of diesel and gasoline. As of December 2009, CNPC wholly owned CNODC-PTC. No updated information was available as of September 2012.

CNPC's Engineering and Oilfield Services

As of September 2012, CNPC had provided engineering oilfield services, such as seismic data acquisition and processing services, oil service engineering, and pipeline, refinery, and petrochemical plant construction to its own joint ventures and other oil and gas joint ventures operating in Sudan. CNPC's 2009 Sudan Report disclosed that the Sudan branch of CNPC's subsidiary, CNPC Engineering and Construction Company (CPECC), was awarded the construction and expansion of CNPC's Khartoum Refinery Company. CNPC's 2010 Annual Report disclosed that CPECC was awarded a contract for the Phase-2 of the Palouge oilfield Power Plant project in Blocks 3 and 7. CNPC's Annual Report also stated that CPECC completed the contract to execute the environmental protection project for the Khartoum refinery during the year. In September 2010, Tenders Info reported that CNPC's subsidiary, Great Wall Drilling Company (GWDC), was awarded with a USD30 million oil drilling services contract in CNPC's concession in Blocks 3 and 7. GWDC was also the contractor for CNPC's concession for Blocks 1, 2, and 4. As of September 2012, no ownership information was available for GWDC or CPECC.

Sinohydro Group Ltd.

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| CNE1000017G1 | B4TH690 | 601669 | |

Materiality Summary:

Materiality Indicator: Revenue

| % Revenue from Sudan | Total Revenue | Sudan Revenue |
|----------------------|------------------|----------------|
| 1.33% | \$18,028,253,573 | \$ 240,000,000 |





Involvement Summary:

Summary of Involvement

As of September 2012, Sinohydro Group, a China-based hydropower engineering and construction company, had ongoing road and dam projects in Sudan. The company was involved in the El Renk-Malakal Road Project, Roseires Dam Heightening Project, and the Kajbar Dam Construction Project.

Details of Involvement

El Renk-Malakal Road Project

In January 2010, Sinohydro was awarded a RMB 1.51 billion (USD 221.5 million) contract for the construction of the El Renk-Malakal Road Project referred to as "Peace Road", a 345-kilometer road from Khartoum to Malakal, a city in the northern part of South Sudan. According to a company press release in February 2010, the El Renk-Malakal road served as a symbolic project of peace between the governments of Sudan and South Sudan. In July 2011, Sudan Tribune reported that the construction would start by November 2011. In November 2011, the company began construction in the South Sudan area of the project. As of July 2012, the project was reportedly ongoing.

Roseires Dam Heightening Project

In April 2008, Sudan Tribune reported that Sinohydro and its consortium partners signed a USD 396 million contract with the Sudan government to elevate the Roseires Dam in eastern Sudan. The news article added that the project was funded by several Arab financial institutions, such as the Arab Fund for Economic Development, the Islamic Development Bank, and the Kuwaiti Fund for Economic Development. According to Sudan's Dams Implementation Unit, the heightening project was implemented to supply the water requirements of two proposed agricultural projects. The project was scheduled to be completed by 2013. The Roseires Dam was built in 1966 for irrigation purposes. In 1971, a power generation plant with a maximum capacity of 280 megawatts was added. As of September 2012, the project was still ongoing.

Kajbar Dam Project

According to the International Rivers, a non-profit organization, as of November 2011, Sinohydro was awarded a USD 705 million, five-year contract by the Sudan government to construct the Kajbar Dam on the Nile River in October 2010. The Kajbar Dam would have a height of approximately 20 meters, create a reservoir of 110 square kilometers, and generate 360 megawatts of electricity. In January 2011, the Huffington Post reported that 59 Sinohydro workers left China in December 2009 in preparation for the construction work in Sudan. In January 2011, The Committee of Anti-Dal-Kajbar Dams, a non-profit organization, sent a letter of protest to Sinohydro and other involved entities as protest against the construction of the dam. As of September 2012, the company provided no updated information.

Sudatel Telecom Group Ltd

| ISIN | Sedol | Ticker (if available) | ADR Cusip (if available) |
|--------------|---------|-----------------------|--------------------------|
| SD000A0F5KV7 | B17N376 | SUDATEL | |

Materiality Summary:

Materiality Indicator: Revenue





| % Revenue from Sudan | Total Revenue | Sudan Revenue |
|----------------------|------------------|------------------|
| 90.64% | \$ 1,580,775,000 | \$ 1,432,875,000 |

Involvement Summary:

Summary of Involvement

As of September 2012, Sudan Telecommunications (Sudatel) was a Sudan-based telecommunications company. It was established following the privatization of the Sudan Telecommunication Public Corp. in September 1993. In 2010, the Sudan Tribune reported that the Government of Sudan owned 26 percent of Sudatel. As of September 2012, there was no updated ownership information available.

According to its 2011 Annual Report, Sudatel generated USD 591.4 million in revenues for FY 2011. In its 2012 press release, the company disclosed that profits for the first half of 2012 increased by 48 percent.

Details of Involvement

Investment in Sudanese Companies

Sudatel reported in its 2011 Annual Report that it had investments in a number of Sudanese companies, most of which were engaged in Sudan's telecommunications sector. Some of these companies were Sudanese Internet, Sudatel Engineering, and Sudani Telecom. As of December 2011, Sudatel wholly owned these companies.

EASSY Cable Project

In 2009, Point Topic reported that Sudatel invested USD 250 million in the construction and operation of the East Africa Submarine (EASSY) cable, which spanned from Sudan to South Africa. According to an August 2010 article by Global Insight, EASSY was completed in April 2010 and became operational in July 2010. As of September 2012, the company owned 13 percent of the EASSY.

Complicity in Genocide

According to a 2006 report of the Genocide Intervention Network (formerly Sudan Divestment Task Force), Sudatel was considered to be complicit in the genocide occurring in Darfur due to the company's collaboration with the Sudanese government and the Janjaweed militia. Former United States Marine Brian Steidle, who worked in Darfur for the African Union, has published information alleging that Sudatel disabled mobile phone networks before Janjaweed attacks in Darfur, essentially blocking any type of effective warning or communications. This type of behavior is considered complicit according to Sudan divestment guidelines.



IV. Companies Removed from 2011 Scrutinized List

| Company Name | Explanation of Removal |
|---|--|
| Aref Energy Holding Co KSCC | Updated materiality estimates indicate that Aref Energy Holding no longer meets the 1% materiality threshold. As a result, the company no longer meets the ASRS restricted criteria for Sudan. |
| AREF Investment Group S.A.K. | AREF Investment Group was previously included on the ASRS Sudan Scrutinized List because of its majority ownership of Aref Enegy Holding. Updated materiality estimates indicate that Aref Energy Holding no longer meets the 1% materiality threshold. Because its subsidiary is no longer considered scrutinized and AREF Investment Group does not have its own direct involvement in scrutinized activities, the company no longer meets the ASRS restricted criteria for Sudan. |
| Bharat Heavy Electricals Limited | Updated materiality estimates indicate that Bharat Heavy Electricals no longer meets the 1% materiality threshold. As a result, the company no longer meets the ASRS restricted criteria for Sudan. |
| China Petroleum & Chemical Corporation | China Petroleum & Chemical Corporation (Sinopec Corp.) was previously included on the ASRS Sudan Scrutinized List because of the involvement of its parent company, China Petrochemical Corp. (Sinopec Group). Updated materiality estimates indicate that neither Sinopec Corp. nor Sinopec Group meets the 1% materiality threshold. As a result, Sinopec Corp. no longer meets the ASRS restricted criteria for Sudan. |
| Egypt Kuwait Holding Co (SAE) | New research has revealed that Egypt Kuwait Holding (EKH) no longer has oil and gas involvement in Sudan. According to the Web site of the U.S. Energy Information Administration, Blocks 3 and 7, in which EKH had stakes, became part of South Sudan after its secession in July 2011. Amended U.S. sanctions only prohibit companies from engaging in South Sudan's petroleum industry if doing so would also benefit Sudan. As of September 2012, South Sudan had suspended oil transport and production intended for Sudan. In light of these developments, EKH no longer meets the ASRS restricted criteria for Sudan. |
| LS INDUSTRIAL SYSTEMS CO.,LTD | Updated materiality estimates indicate that LS Industrial Systems no longer meets the 1% materiality threshold. As a result, the company no longer meets the ASRS restricted criteria for Sudan. |
| MISC Berhad | MISC was previously included on the ASRS Sudan Scrutinized List because of the involvement of its parent company, Petroliam Nasional Berhad (Petronas). Updated materiality estimates indicate that Petronas no longer meets the 1% materiality threshold. Because its parent is no longer considered scrutinized and MISC does not have its own direct involvement in scrutinized activities, the company no longer meets the ASRS restricted criteria for Sudan. |



| Company Name | Explanation of Removal |
|--|--|
| Oil and Natural Gas Corporation Limited | Updated materiality estimates indicate that Oil and Natural Gas Corporation no longer meets the 1% materiality threshold. As a result, the company no longer meets the ASRS restricted criteria for Sudan. |
| Petronas Chemicals Group Berhad | Petronas Chemicals Group was previously included on the ASRS Sudan Scrutinized List because of the involvement of its parent company, Petroliam Nasional Berhad (Petronas). Updated materiality estimates indicate that Petronas no longer meets the 1% materiality threshold. Because its parent is no longer considered scrutinized and Petronas Chemicals Group does not have its own direct involvement in scrutinized activities, the company no longer meets the ASRS restricted criteria for Sudan. |
| Petronas Dagangan Bhd | Petronas Dagangan was previously included on the ASRS Sudan Scrutinized List because of the involvement of its parent company, Petroliam Nasional Berhad (Petronas). Updated materiality estimates indicate that Petronas no longer meets the 1% materiality threshold. Because its parent is no longer considered scrutinized and Petronas Dagangan does not have its own direct involvement in scrutinized activities, the company no longer meets the ASRS restricted criteria for Sudan. |
| Petronas Gas Berhad | Petronas Gas was previously included on the ASRS Sudan Scrutinized List because of the involvement of its parent company, Petroliam Nasional Berhad (Petronas). Updated materiality estimates indicate that Petronas no longer meets the 1% materiality threshold. Because its parent is no longer considered scrutinized and Petronas Gas does not have its own direct involvement in scrutinized activities, the company no longer meets the ASRS restricted criteria for Sudan. |
| Ranhill Berhad | Ranhill was delisted from the Malaysian Stock Exchange in November 2011. As a result, the company is no longer included on the ASRS Sudan Scrutinized List. |



ESG Research

Arizona State Retirement System
Sudan Scrutinized Companies and Held Companies
Reported November 2012
Holdings as of Sept. 30, 2012

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¹As of June 30, 2011, based on eVestment, Lipper and Bloomberg data